

PHENIX WEEKLY PLANNING



10/11/12
Don Lynch

This Week

TECHNICAL
SUPPORT
2012

- Finish MuTr sta 1,2,3 S Repairs
- Continue Repairs & Upgrades for MuTr Stations 2&3 N
- Complete DC West Repairs, dismantle Work Platforms and Tent
- Finish MPC S re-install, Continue MPC N Repairs
- Continue VTX/FVTX Repairs
- Continue VTX Cooling System Upgrades
- Continue RPC3 Gas Recirculation Upgrade
- Complete RPC1 South Cooling Upgrade & Thermocouples
- sPHENIX design support
- MPC-Ex design support
- Begin Planning and Prep for RPC3 shielding

Next Week

- Disassemble Sta 1 and DCWest work platforms & DC West Tent
- Replace remaining RS-485 type ADAMs on West carriage with MODBUS/TCP type
- Continue Repairs & Upgrades for MuTr Stations 2&3 N
- Finish MPC S re-install, Continue MPC N Repairs
- Continue VTX/FVTX Repairs
- Continue VTX Cooling System Upgrades
- Continue RPC3 Gas Recirculation Upgrade
- Install MPC North
- Install Thermocouples on RPC1 North
- Upgrade RPC1 North Cooling
- Continue working on RPC3 shielding
- sPHENIX design support
- MPC-Ex design support

VTX/FVTX

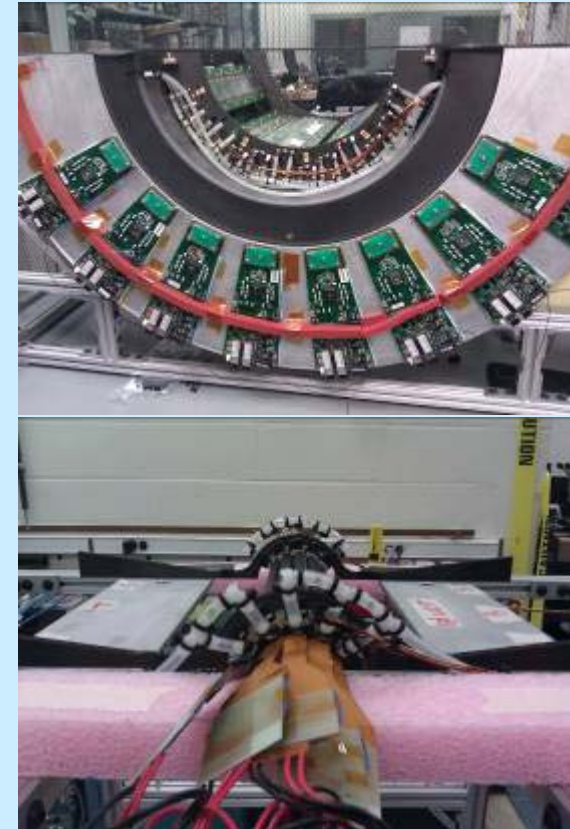


Repairs and testing
in Progress at Chemistry (VTX)
and Physics (FVTX) Departments



Dates are start dates and the work will be completed over the course of the week Note: would like to improve schedule by 1 week.

- Oct 1: Start B0 West assembly and testing
- Oct 8: Start B1 West assembly, expect to have 2 ladders from RIKEN this week. 1 repaired, 1 class-2
- Oct 15: Test East side detector and receive last 2 repaired ladders from RIKEN
- Oct 22: Complete B1 West assembly and test
- Oct 29: Complete testing east/west sides and prep for VTX/FVTX mating
- Nov 5: Mate VTX and install FVTX
- Nov 12: VTX/FVTX available for survey.
- Nov 19: Ready for installation

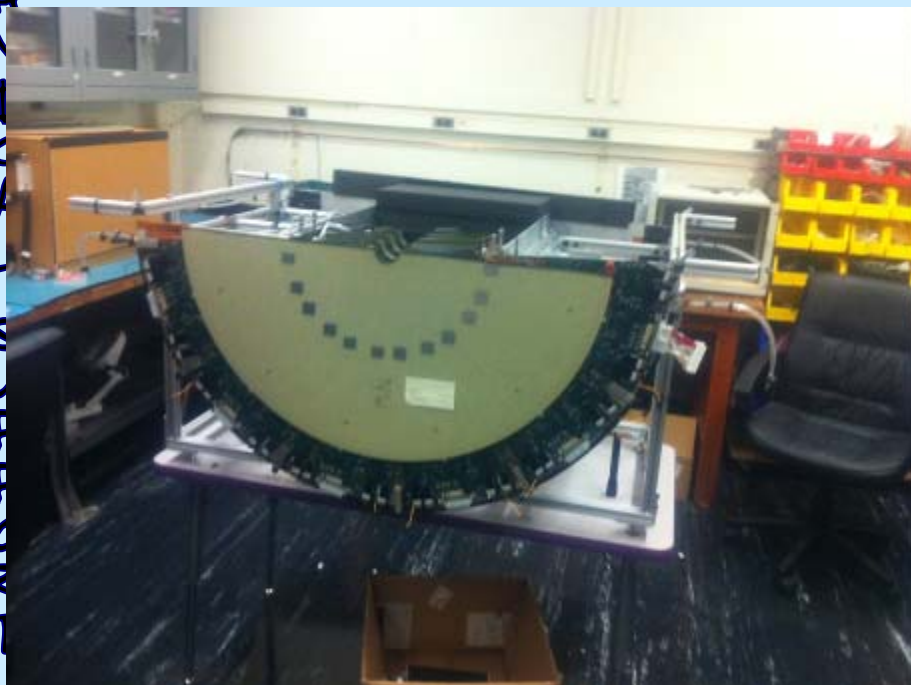


FVTX

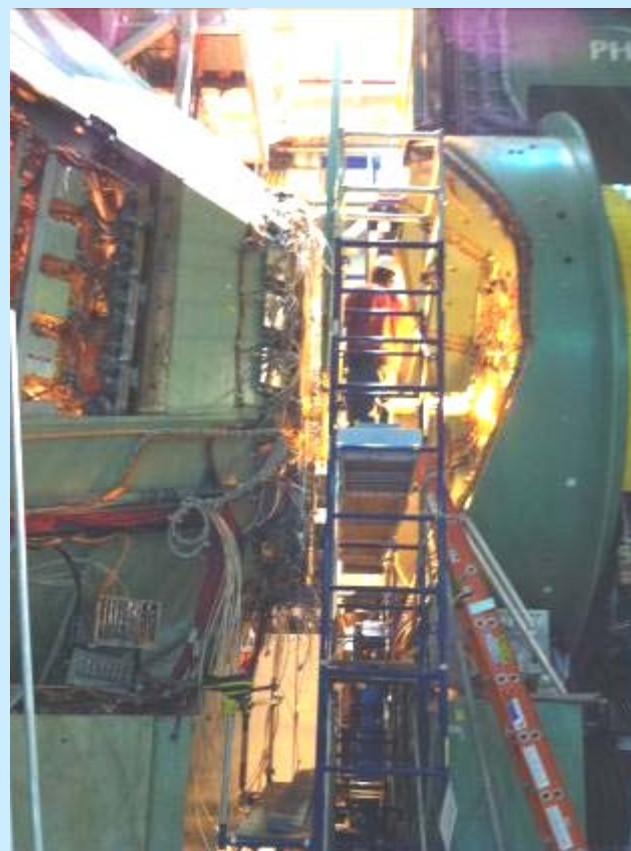
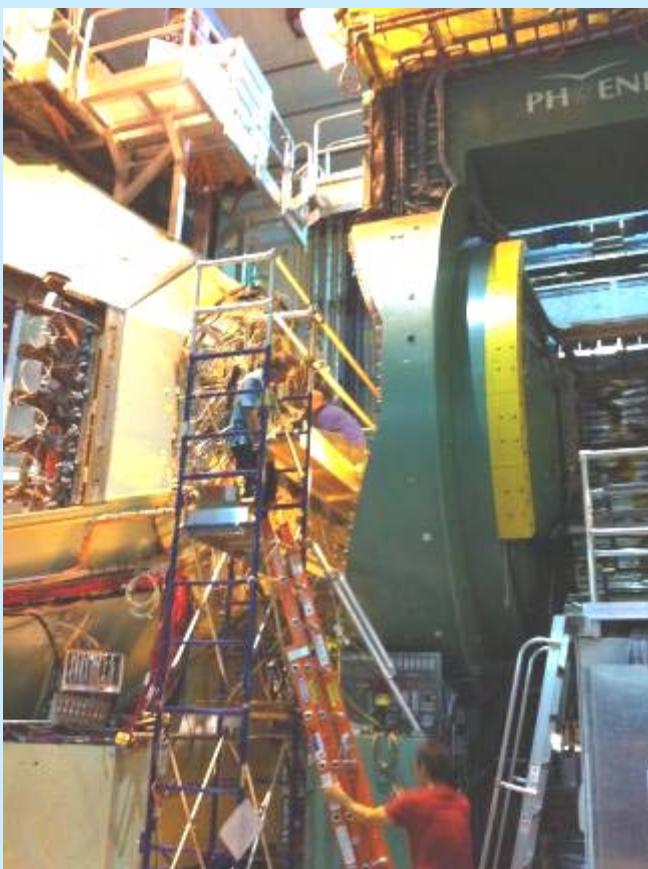
FVTX repairs and reassembly on schedule.

West half is in PHYSICS

East Half is in CHEMISTRY



- Station-1 South re-capacitation and termination

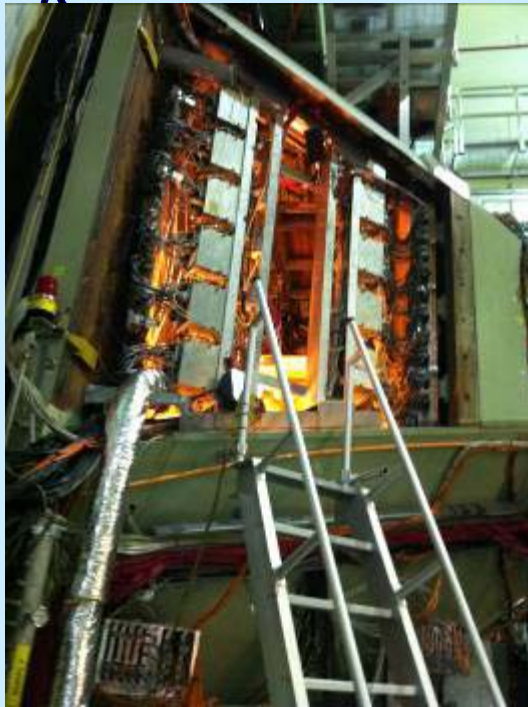


Complete. Scaffolding to be removed next Monday 10/15

Clamp-on Terminator Installation on North & South Station-3

Lower clamp-on terminators already installed for both north and south sta-3 (bottom 4 octants)

With new work platforms that reaches all of sta-3; install remaining (upper) clamp-on terminators. **South Done, North In Progress**



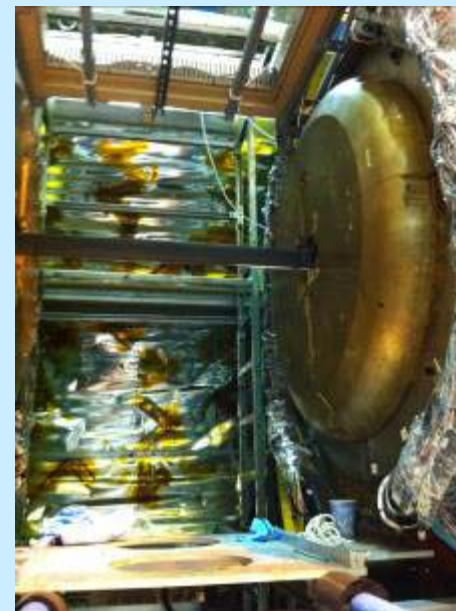
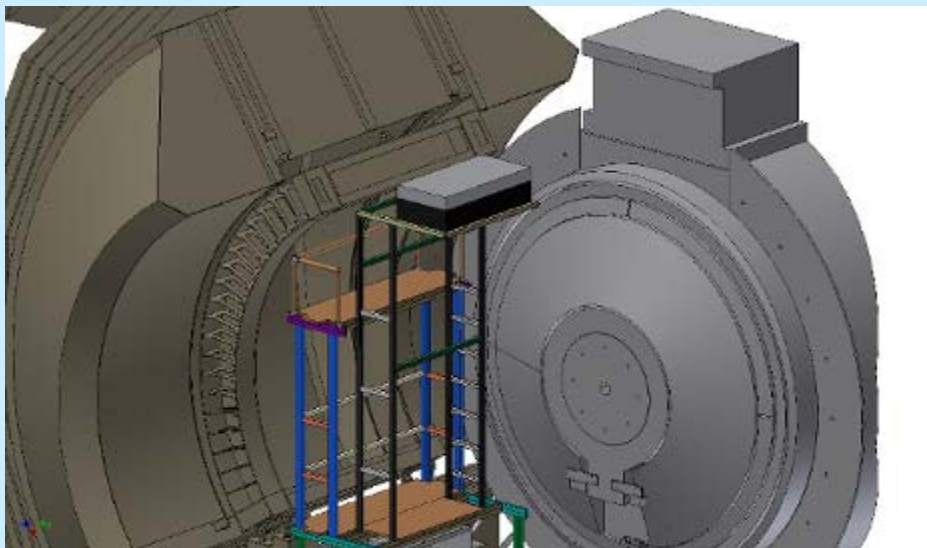
MPC Repairs -



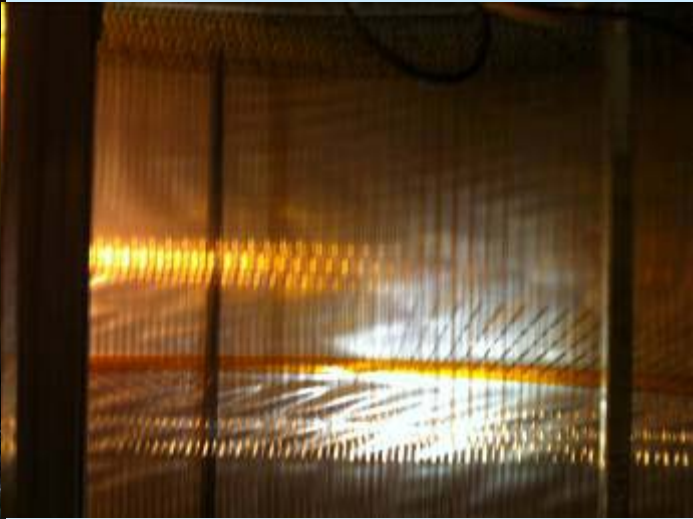
North MPC: At PHYSICS for repairs
To be reinstalled by 10/26

South MPC: Repairs completed,
reinstalled, testing and new cables in
progress



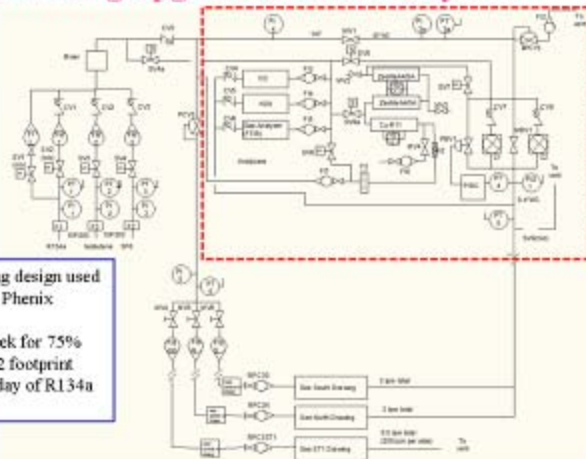


TECHNICAL SUPPORT



10/11/2012

Run 12 Shutdown Work Overview Gas/Cooling Systems Recirculating Upgrade to RPC Gas System



- Based on working design used for many years at Phenix
- Save money
 - \$3k per week for 75%
- Reduces lab CO2 footprint
 - 60 lbs per day of R134a

June 20, 2012

1E

VTX/FVTX Cooling Upgrade

- Piping 90% done
- New filtration system in place, neds to be connected
- Big Wheel manifolds assembled ready for installation
- Chiller 1 repair parts here, need AC tech to Distribution upgrade

RPC Recirculation Upgrade

Recirculation Piping installation - In Progress

GMH rack moving along
Purification system controls assembly,
installation and testing - November

PC upgrade - November

Analyzer procurement not yet approved



RPC Station 1 North and South Cooling Upgrade & Monitoring



North



South

North to be completed this week, Start on South next week

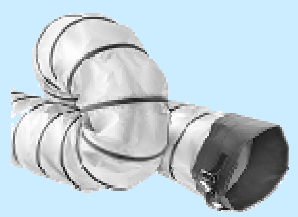
TECHNICAL REPORT

RPC1 Cooling

North



South



All components received and ready for installation

RPC Background Attenuation Project

TECHNICAL SUPPORT 2012



Looking towards RPC3 North
 ← East West →

Large shielding modifications at Q2 upstream
 north and south to be planned and installed by
 CA-D (Dave Phillips) by 12/14/2012



Looking towards RPC3 South
 ← West East →

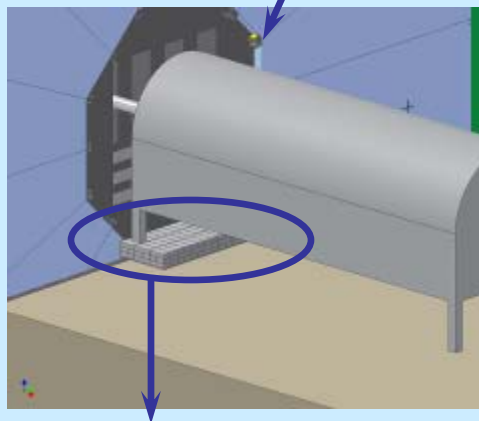
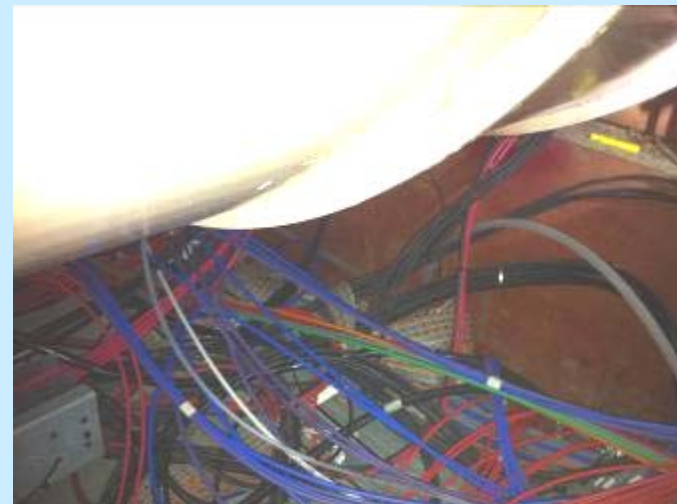
RPC Background Attenuation Project

TECHNICAL SU

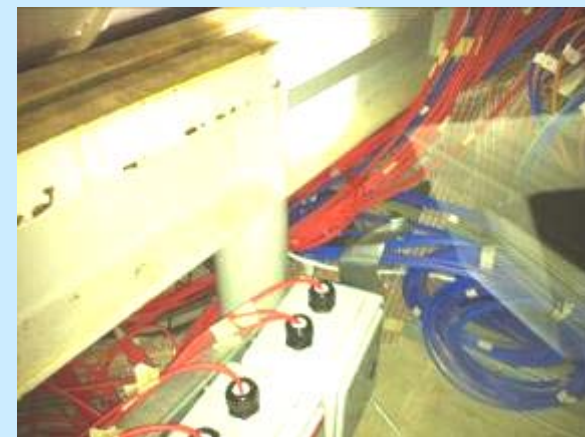
Under DX at RPC3 North
 ← East West →



Under DX at RPC3 South
 ← West East →



144 Steel bricks, 2x4x8,
 stacked in 3 high, 16 wide, 3
 rows, respectively by 11/21





MuID Collar IR Holding Area Support

Structural support improvements designed

Parts to be ordered

Installation this fall prior to EC roll in

New Electrical Work for 2012 Shutdown, to be accomplished as time is available

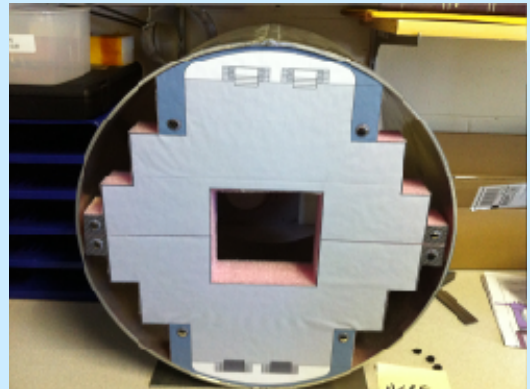
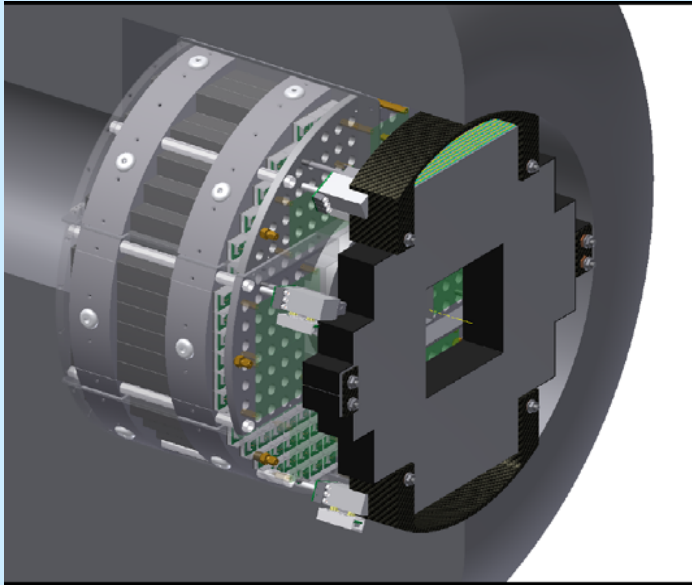
1. Support CAD replacement of Assembly Hall 480V Fused Switch Panels #8H-1, 8H-2, and 8 EMH1. Coordinate temporary power patch while work is being performed and minimize impact on shutdown work. (Temporary power patch - week of 7/16) - Done
2. Add the Assembly Hall Crane lockout/contactors/ indicator light key switch circuit - similar to IR Crane. -Done
3. The Gas Mixing House Breaker Panel for the Gas Mixing side is almost out of spare breaker slots and needs to be reviewed for increased capacity panel to replace it. - Done
4. Add Transient Surge Suppressor to 3 phase power panel on the Central Magnet Bridge. - In Progress
5. Remote breaker switch - parts ready install scheduled for 10/19-20/2012

PHENIX Electronics Upgrades

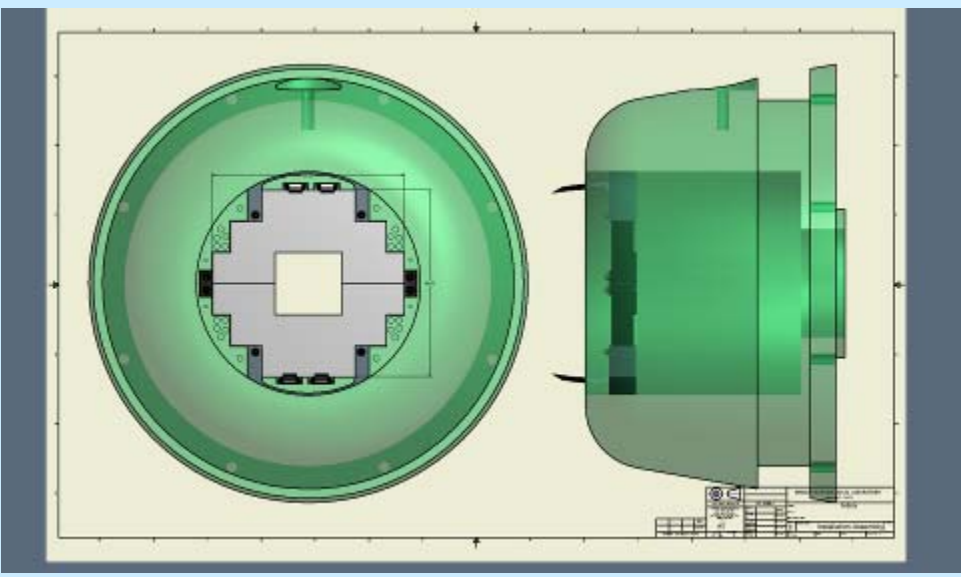
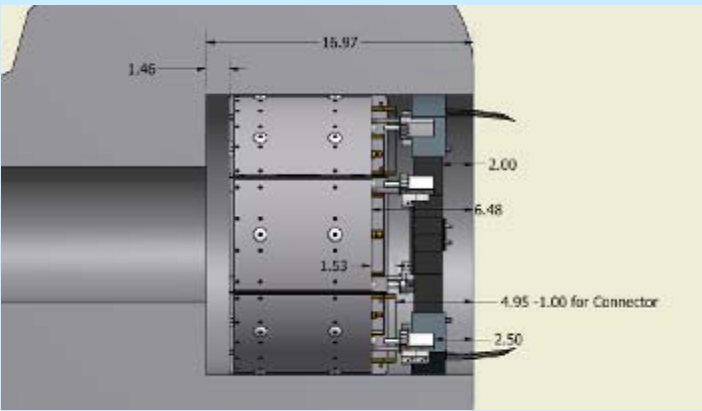
1. Replace remaining RS-485 type ADAMs on West carriage with MODBUS/TCP type. - In progress waiting for access to back of WC (next Wednesday)
2. Install Ethernet switches and MODBUS/TCP ADAMs on Central Magnet arm. - Done
3. Install second MODBUS server in counting house. - TBD
4. Install MTP patch bay and jumpers for FVTX in counting house. - November
5. Add several backup MTP fibers from CH to IR - November

Additional Work for 2012, not yet scheduled, to be fit in as available

1. Replaced aging magnet hoses (CM only) - **In Progress**
2. identify obsolete services passing through sill and remove them. - **As time is available**
3. Cover for services coming from IR through sill. - **After Shutdown**
4. Plan for stripping out TEC electronics and services to free up TEC racks. - **As time is available**
5. Add limit switch and improved spooling control for window washer cable. - **In progress**
6. Improve structural support for MuID collars in IR Holding Area - **November**

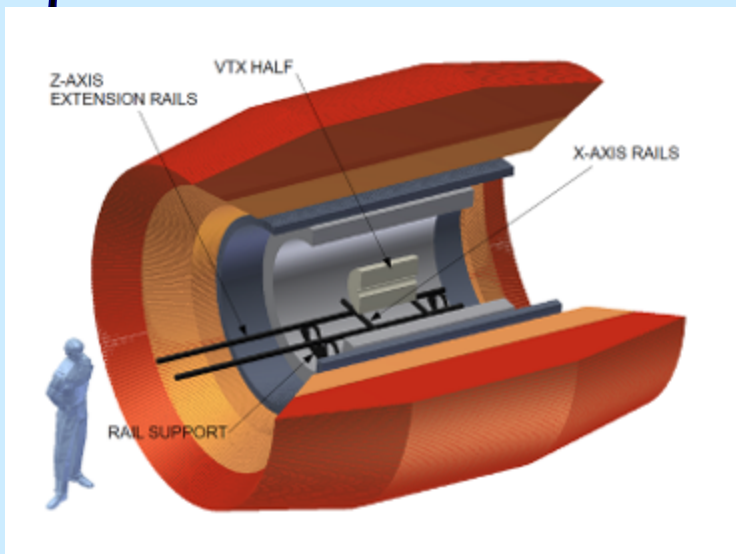


Foam Mockup



MPC-Ex approved, design work in progress, new cables for MPC South are ready to install

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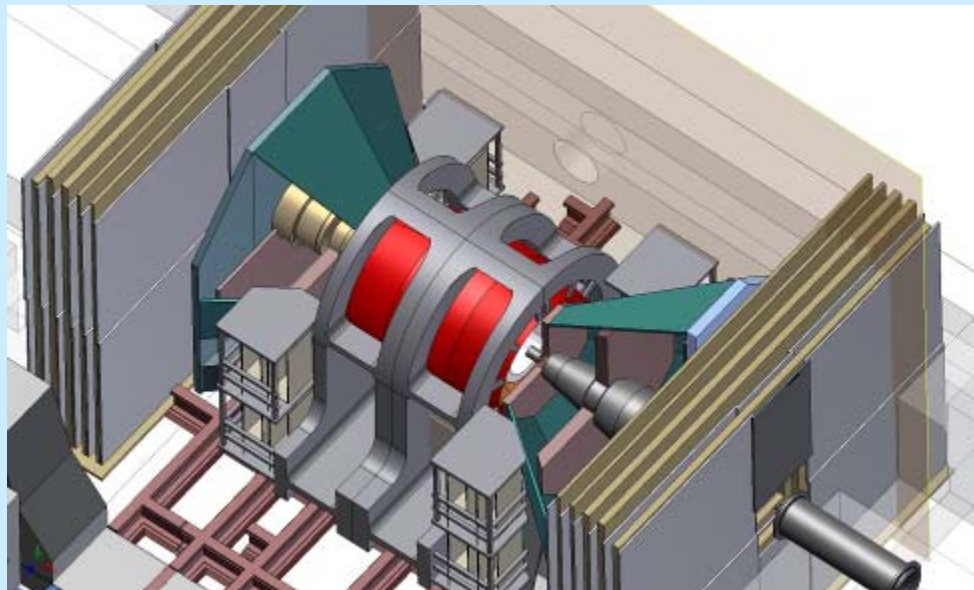
PHENIX

sPHENIX Proposed Upgrade

Work continues evaluating engineering tradeoffs for EMCal and HCal design, materials, etc.

BNL Review last week

Prototype HCal and EMCal in progress



Procedures for Shutdown 2012

- Existing PHENIX General Purpose Recurring Task procedures -Done
 - VTX Removal -Done
 - FVTX/VTX installation -Done
 - VTX Survey -Done
 - FVTX Survey -Done
 - FVTX Cooling System Upgrades -Done
 - MuTr Maintenance & Upgrade (stations 1 2 & 3) -Done
 - MuTrigger Maintenance and Upgrade -Done
 - DC Repair - Incl. in WP - Done
 - MPC removal and re-installation - incl in WP -Done
- Procedures will be part of 1 WP for VTX and FVTX
- Incl. in separate WP's for MMN and MMS entry

Work Permits for Shutdown 2012

- Start of Shutdown (PHENIX) -Done
- VTX Removal/FVTX/VTX Installation -Done
- MuTr/MuTrigger Maintenance and Upgrade 3 WP's: Station 1, MMN and MMS work -Done
- RPC1 Cooling Upgrade (PHENIX) -Done
- DC West Repairs - Done
- MPC repairs -Done
- VTX/FVTX Cooling Upgrade (PHENIX) -Done
- RPC Recirculation Upgrade (PHENIX) -Done
- RPC Background Attenuation Shielding 2 - In Progress
- End of Shutdown (PHENIX)

TECHNICAL SUPPORT ZONE

| | |
|--|---------------------|
| MuTr Station 1 Re-cable, re-hose and test | Done |
| Re-capacitation and air manifold upgrades | |
| Station 3 South (upper half) | Done |
| Remove Station 2/3 South scaffolding | 10/26/2012 |
| Re-install MMS lampshade | 10/31/12 |
| Station 3 North (upper half) Scaffolding | Done |
| Capacitor Clamps and air manifolds | 11/9/2012 |
| Remove station 2/3 scaffolding | 11/16/2012 |
| MPC South repairs | Done |
| MPC South Installed | Done |
| RPC 1 South cooling upgrade | 10/12/2012 |
| RPC1 South Thermocouples | Done |
| Remove Station 1 Scaffolding | 10/15/2012 |
| Move CM South, Open station 1 North | 10/16/2012 |
| VTX Cooling System Upgrades | In Progress 10/15 |
| RPC Recirculation Upgrade | 11/2/2012 |
| Repair upgrade, reassemble VTX/FVTX | In Progress - 10/26 |
| Test, survey (at Chemistry and IR) and re-install VTX/FVTX | 10/26-11/16/2012 |
| Substation breaker upgrade/test (CAD) | 10/19-20/2012 |
| DC West maintenance (replace window) | In Progress 10/15 |
| RPC Shielding under DX magnets | 11/21/2012 |
| RPC tunnel Shielding (Dave Phillips) | 12/14/2012 |
| Reinstall MPC North | 10/26/2012 |

TECHNICAL SUPPORT ZONE

| | |
|---|------------------|
| RPC1 North Cooling upgrade | 10/26/2012 |
| RPC1 North Thermocouples | 10/26/2012 |
| Window Washer pin & spool upgrades | 11/21/2012 |
| MuID IR storage support | 11/21/2012 |
| Veterans Day Holiday | 11/12/2012 |
| Re-install MMS lampshade | 11/9/2012 |
| Re-install MMN access panel on lampshade | 11/21/2012 |
| Pre-run commissioning and prep for run 13 | 11/1-12/31/2012 |
| Prep for EC roll in | 11/12-11/21/2012 |
| Thanksgiving Holidays | 11/22-23/2012 |
| Roll in EC | 11/26-11/30/2012 |
| Prep IR for run | 12/3-12/7/2012 |
| Pink/Blue/White sheets | 12/7-12/21/2012 |
| Christmas Holidays | 12/24-25/2012 |
| Start run 13 | 1/1/2013 |



Current status for the various fixed vertical ladders at PHENIX

All ladders in the AH & the IR are currently **Yellow Tagged**

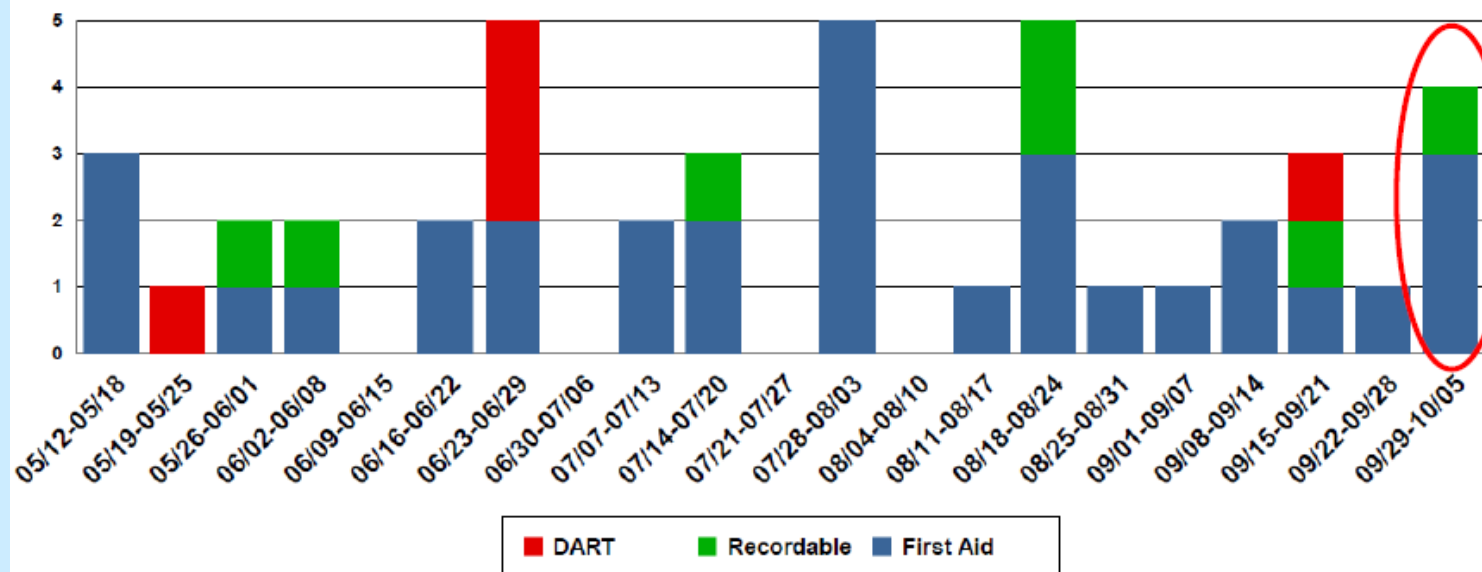
The following requirements to use any of the yellow tagged ladders are as follows:

- Current web based ladder training
- Read and understand the information on the yellow tag concerning the current deficiencies of that ladder
- A current work permit must be written for the ladder and you must read, understand and sign the work permit. (Carter has a general work permit that allows use of all **yellow tagged** ladders at PHENIX, see Carter to sign this).
- You must be confident that you are physically fit enough to climb the ladder, and have no reservations about your ability to use the ladder as necessary to safely accomplish the task the ladder is to be used for.

Outside of the IR and AH there are 2 additional ladders:

- The unistrut ladder inside the corridor north of the tech offices used to access the 30 ton rack room AC evaporator, economizer and air handling units - This ladder is **green tagged** and requires no special training or permits to use
- The outside ladder on the east side of the tech offices that accesses the condenser and compressor for the 30 ton rack room AC. This has not yet been inspected - Do not use until inspected

Injuries Per Week As of 10/5/2012



Injury Status:

FY13 YTD: DART – 0, TRC – 1, First Aid – 3

FY12: DART – 17, TRC – 35, First Aid – 70

FY11: DART – 30, TRC – 44, First Aid – 45

FY12 Injury Listing: <https://intranet.bnl.gov/esh/shsd/seq/OccInj/BNLINjuries.aspx>

Recent Injuries

| | | |
|---------|------------|---|
| 10/4/12 | First Aid | An employee injured a leg while pushing a cart laden with supplies. At the clinic, first aid was given and the employee returned to work the following day. |
| 10/2/12 | First Aid | An employee was injured while descending a stairway in the dark, and reported to the OMC with a knee injury. The injury was diagnosed as a sprain and the employee returned to work. (Event Link) |
| 10/1/12 | First Aid | An employee was injured when they turned and bumped their head on a protruding angle iron. At the clinic, first aid was given and the employee returned to work. (Event Link) |
| 10/1/12 | Recordable | An employee injured a toe while climbing the stairs. First aid was administered at the OMC and the employee was sent out for an x-ray. Following receipt of the x-ray report, a broken bone was diagnosed, making this recordable. (Event Link) |

Recent Events

| 10/1/12 | Non-Reportable | A Kubota owned by F&O leaked hydraulic fluid from Brookhaven Avenue to Bldg 244. The initial notification was for a spill that was noticed in front of Bldg 244. It was later found to be related to the same Kubota that left a trail of fluid down Brookhaven Avenue and Upton Road. The spill was cleaned up by grounds and did not contact soil. (Event Link) |
|---------|----------------|--|
| 9/27/12 | SC-BNL | <p>A vehicle was in a parking spot, in park, with the engine off, but then travelled and hit an adjacent government vehicle. The vehicle that was struck sustained minor damage to the driver side door area (mainly tire marks). No injuries were reported, both vehicles were unoccupied. Laboratory Protection was called and investigated.</p> <p>In addition, the following recent events took place involving minor vehicle incidents:</p> <p>On 9/28, at approximately 9:25 am, behind building 452, an F&O van and a vendor delivery truck were backing up outside of the view of each other and collided. The right rear corner of the van and tail light were damaged. No one was injured. Laboratory Protection was called and investigated.</p> <p>On 9/24, at approximately 10:00 am, a van was attempting to back out of the lock shop area and contact was made with another parked van. Resulting vehicle damage was a small scrape. No one was injured. Laboratory Protection was called and investigated. (Event Link)</p> |

Where To Find PHENIX Engineering Info



We are generally on or slightly ahead of schedule for work at the PHENIX IR. VTX/FVTX ready for re-installation is the pacing item for the rest of the shutdown, still expect to be ready for Jan. 1 Cooldown.

http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm

